

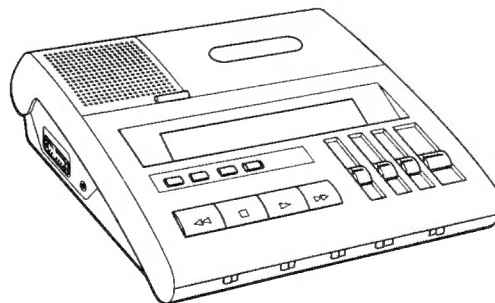
SONY®

3-798-144-21(1)

Microcassette Dictator/Transcriber

Operating Instructions

A



***BM-890D
BM-890T***

© 1994 by Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Owner's Record

The model and serial numbers are located on the bottom. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

Precautions

On safety

- Should any solid object or liquid fall into the unit, unplug the unit and have it checked by qualified personnel before operating it any further.

On power sources

- Operate the unit only on 9 V DC.
- For AC operation, use the AC power adaptor supplied with this unit. Do not use any other AC power adaptor as it may cause malfunction.
- Unplug the AC power adaptor from the wall outlet when it will not be used of an extended period of time. To disconnect the adaptor, pull it out by grasping the adaptor. Never pull it by the cord.
- The AC power adaptor which has been supplied becomes hot if it is connected to an AC outlet for a long period of time. But, this will not cause any trouble.

On placement

- Do not install the unit in a location near heat sources, such as radiators or airducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit near materials (curtains, draperies) that may block the ventilation holes.

If you have any question or problem concerning your unit that is not covered in this manual, please consult the Sony dealer from whom you purchased the unit.

Table of Contents

Introduction

About This Manual	3
Features	3
Operation Flow Chart	4

Setting Up

Power Connection	6
Setting Up the Unit	6

Operations

Dictation	8
Transcription	14
Erasing	20
Telephone Recording	21
Example of Dictation and Transcription	22

Additional Information

Maintenance	24
Troubleshooting Guide	25
Alarm System	26
Specifications	27
Location and Function of Controls	28

About This Manual

The instructions in this manual are for the BM-890D and BM-890T. Before you start, please check your model number.

The main unit is the BM-890 for both the BM-890D and the BM-890T. You can use the BM-890D as a dictator since the BM-890D is supplied with accessories for dictating, while you can use the BM-890T as a transcriber since the BM-890T is supplied with accessories for transcribing. Any differences in operation are clearly indicated in the text, for example, "BM-890D only".

If you buy the accessories which your model does not have, your model works as both dictator and transcriber.

Differences in supplied accessories

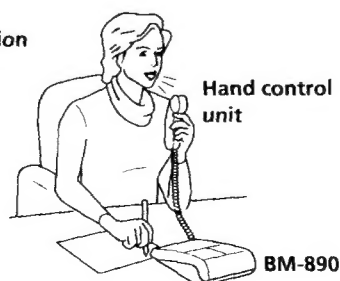
Accessory \ Model	BM-890D	BM-890T
Hand Control Unit	Supplied	Not supplied
Cradle of the hand control unit	Supplied	Not supplied
Foot Control Unit	Not supplied	Supplied
Earphone	Not supplied	Supplied

Features

As a dictator

- The hand control unit remotely controls the BM-890.
- Dual electronic indexing function signals—"LTR" (end of letter) and "SEC" (special instructions to secretary) signals—can be recorded on a tape during dictating, recording of telephone calls, listening or in the stop mode.
- The end of the last recorded segment on the tape can easily be located using the record-end function.
- Alarm sound and indication on the display window informs recording error.
- Recording of telephone calls can be performed with the use of the optional TL-4 telephone recording adaptor.
- With the use of the optional DE-45, DE-36 or MDR-U10M earphones, you can monitor the sound with the desired sound level during recording.

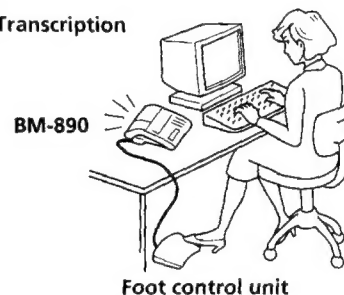
Dictation



As a transcriber

- The foot control unit allows you to move the tape without using your hands.
- The scanning function allows easy display of the total recorded time of dictation in minutes, the number of documents and instructions recorded on the tape.
- Auto-stop function quickly accesses instructions and documents.
- DPC (Digital Pitch Control) allows you to increase or decrease the playback tape speed within the range of approximately -30% to +80%.
- Auto backspace function with the REVERSE TIME control makes transcribing easy by enabling the reviewing of the last recorded words each time listening is resumed.
- Two tape speeds (2.4 cm/sec. and 1.2 cm/sec.) can be selected according to the user's needs.
- Rapid erasing function with ERASE and REW buttons.
- The Electronic "Index OFF" mode allows you to transcribe a cassette which was not recorded using a Sony Professional Dictating Machine.

Transcription

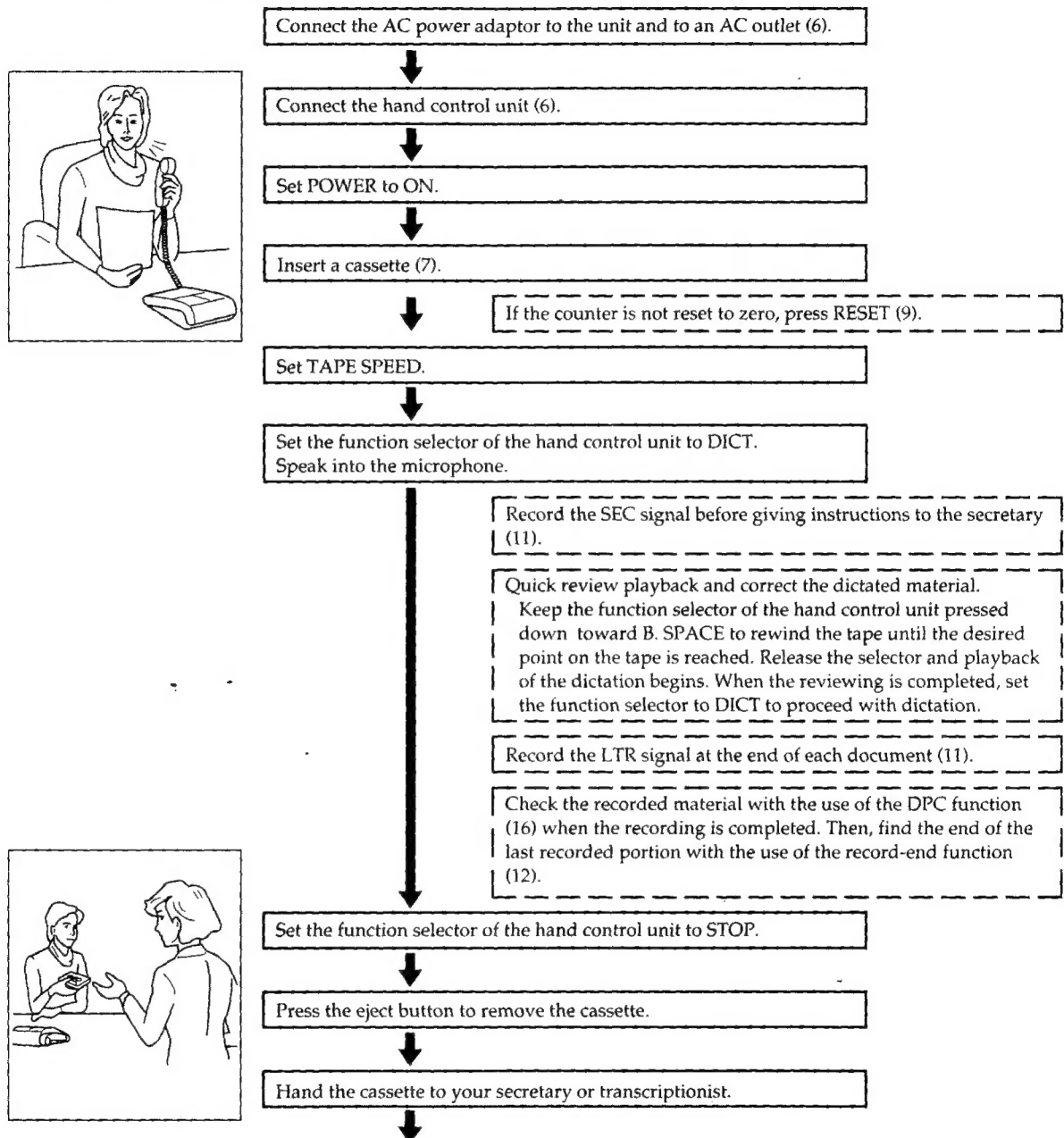


Operation Flow Chart

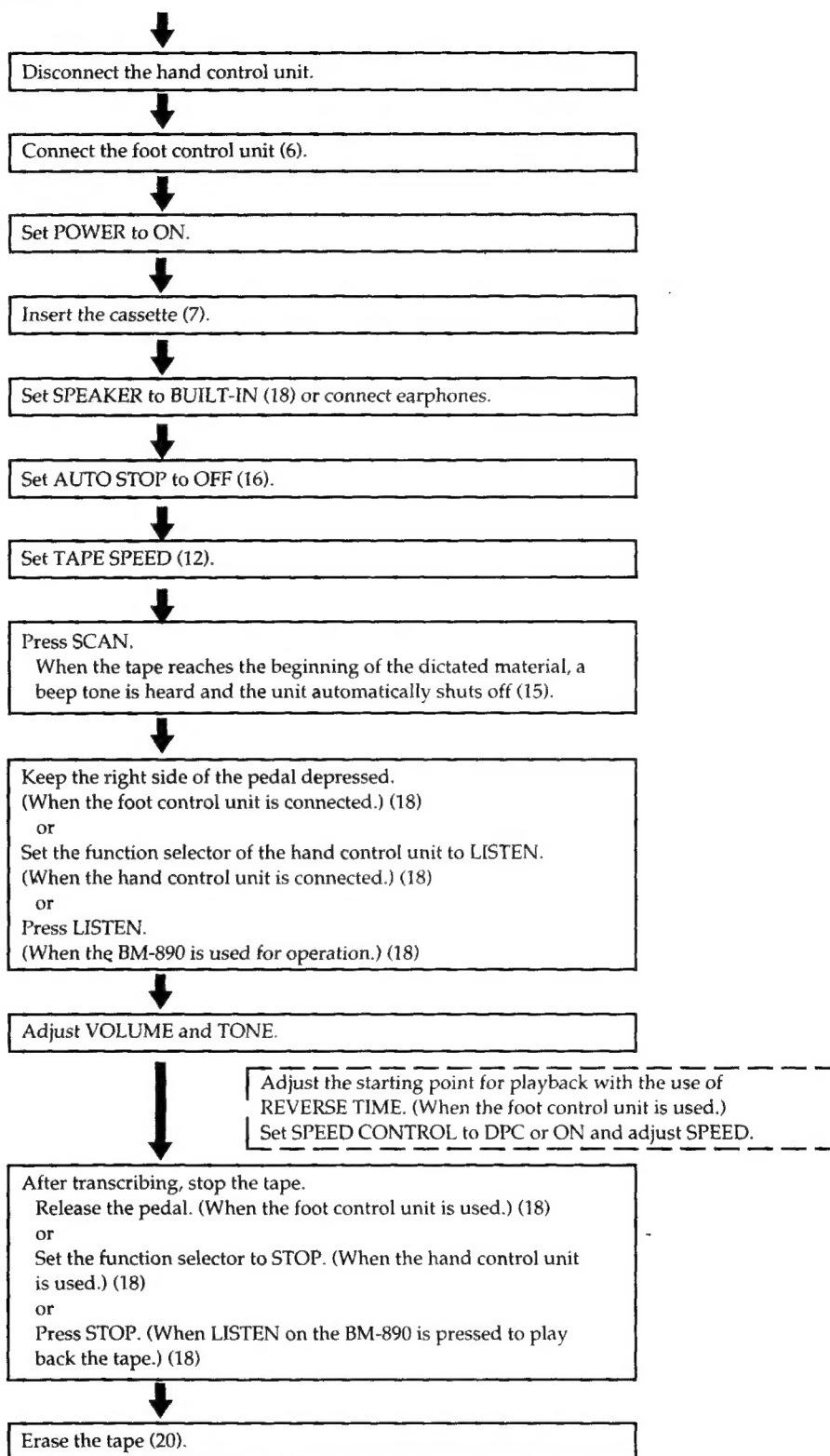
For details, refer to the pages in ().

 : Necessary step : Optional step

Dictation (BM-890D)



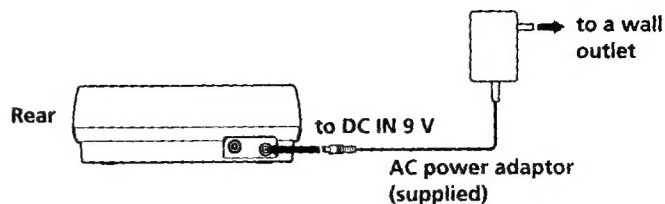
Transcription (BM-890T)



Power Connection

Note on the AC power adaptor

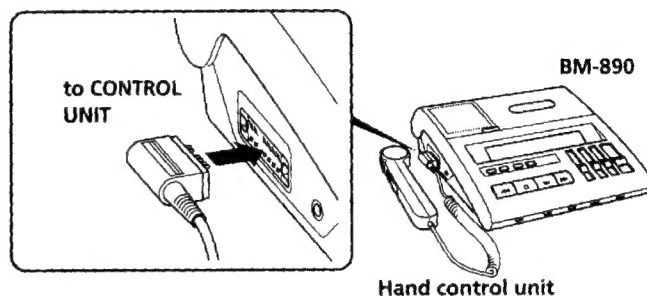
Use only the AC power adaptor supplied. Do not use any other AC power adaptor.



Setting Up the Unit

Connecting the Hand Control Unit (supplied with the BM-890D only)

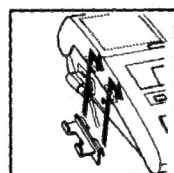
For operation, refer to "Dictation" on page 8.



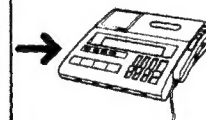
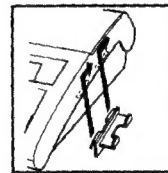
Attaching the cradle

Attach the cradle to the left or right side of the unit. Place the hand control unit on the cradle while not in use. Insert the cradle into the slots and slide to secure it.

Left side

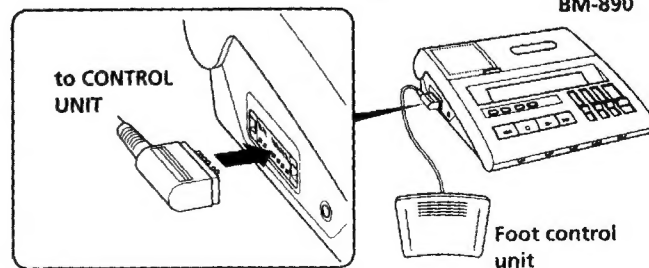


Right side

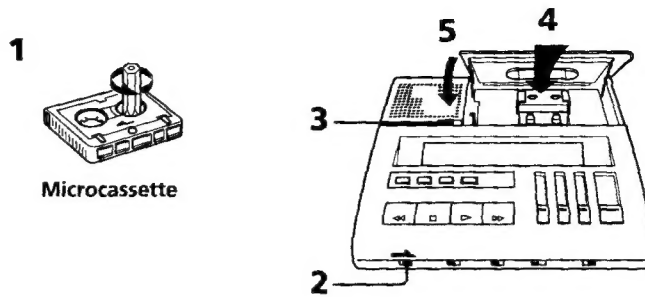


Connecting the Foot Control Unit (supplied with the BM-890T only)

For operation, refer to "Transcription" on page 14.



Cassette Insertion



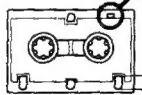
- 1** Take up any slack in the tape.
- 2** Set **POWER** to **ON**.
- 3** Press the eject button to open the cassette holder.
- 4** Insert a cassette into the cassette holder with the side to be recorded on or played back facing upward.
Push the cassette into the holder completely.
- 5** Close the cassette holder.
The digital counter displays zero and appears.



This unit uses only standard Microcassettes.

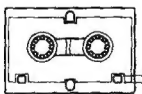
Non standard cassettes cannot be used because their "L" dimension (see illustration) is different.

Standard Only standard Microcassettes have a small indentation on side A.



L Approx. 5 mm

Non standard



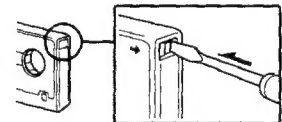
L Approx. 2.5 mm

Notes on the Microcassette

To protect cassettes from accidental erasure

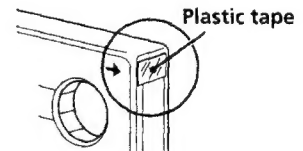
When a recording is made, the previous recording is automatically erased.
To prevent erasure, break the cassette tabs.

Break out and remove the tab.



To reuse a cassette

To record on a cassette with removed tabs, cover each slot with a piece of plastic tape.

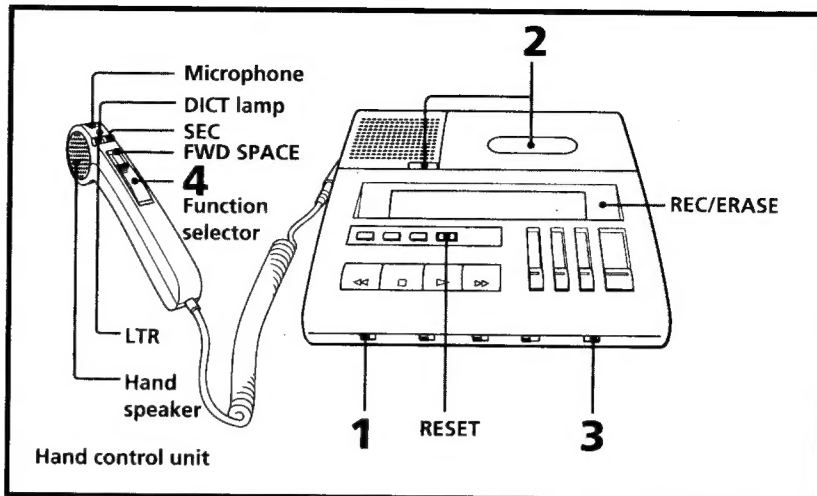


Dictation

You need the BM-890D or, if your model is BM-890T, the hand control unit.

To use the unit as a dictating machine, connect the hand control unit.

For connection, see page 6.



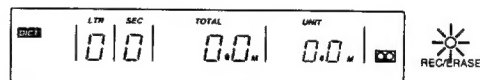
1 Set **POWER** to **ON**.

2 Insert a **cassette**. (See page 7.)

3 Set **TAPE SPEED** to the desired tape speed, 2.4 or 1.2 (cm/sec.).

4 Set the function selector to **DICT**.

Recording starts. Speak into the microphone. **DICT** appears on the display window. The **DICT** lamp on the hand control unit lights up and **REC/ERASE** lamp on the BM-890 blinks when the microphone picks up sound.



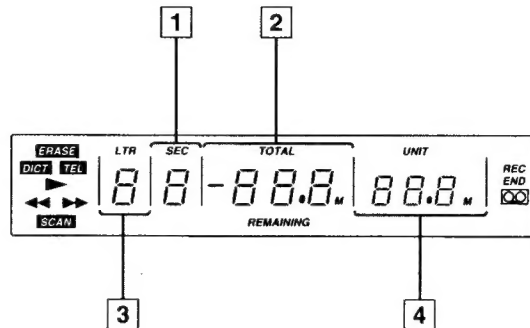
To stop the tape

Set the function selector to **STOP**.

Note

Keep the hand control unit away from the BM-890 during recording. Otherwise, noise may be recorded.

Digital Counter While Dictating



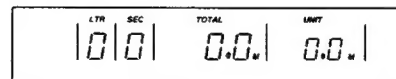
- 1 The number of instructions recorded increases by one every time SEC is pressed.
When the SEC button is pressed, the number blinks for about 3 seconds and then stops blinking.
- 2 Time counter: Total recorded time of dictation in minutes.
Tape counter: Numerical reference for recording and listening.
To switch the counter to time or tape indication, keep the RESET button pressed for more than two seconds.
- 3 The number of documents recorded increases by one every time LTR is pressed.
When the LTR button is pressed, the number blinks for about 3 seconds and then stops blinking.
- 4 Recorded time of each document in minutes.

Notes

- The time counters are normally within plus or minus two minutes of the actual time when using a MC-60BM Microcassette.
- In case a microcassette other than MC-60BM is used, the time counter reading may differ to a large extent from the actual time.
- The tape counter is switched to the time counter when the SCAN button is pressed.
- The numbers on the digital counter are memorized even when the POWER switch is turned off.

To set the digital counter to zero

We recommend that you press the RESET button before starting dictation. Keep the RESET button pressed for more than 0.5 second to reset the LTR (document), SEC (special instruction), TOTAL (time/tape) and UNIT (time) counters to zero.



Continued on next page.

Dictation (continued)

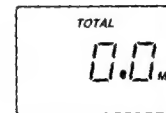
To reset the TOTAL (time/tape) counter to zero tape counter

When the RESET button is pressed for more than 2 seconds in the tape stop mode, the TOTAL (time/tape) counter changes to 000 and functions as a tape counter.



To reset the TOTAL (time/tape) counter to zero time counter

Keep the RESET button pressed for more than 2 seconds in the tape stop mode. The TOTAL (time/tape) counter changes to 0.0M and functions as a time counter.



The TOTAL (time/tape) counter and the UNIT time counter indicate the approximate time of the recorded material.

Convenient Functions

To record LTR (letter) and SEC (secretary) signals

You can record electronic index signals on the tape while the unit is set in recording (dictation), telephone recording, stop or playback (with the hand control unit) mode.

LTR (letter=end of document) signal: Record at the end of each document.

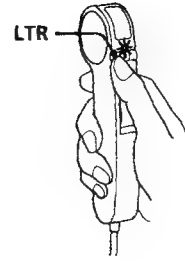
SEC (secretary=special instructions to secretary) signal: Record before giving instructions to the secretary.

When the AUTO STOP function (see page 16) is activated (AUTO STOP: ON), the tape automatically stops at each index signal when it is rewound, rapidly advanced or scanned. Documents and instructions can be located without the user's having to listen to the entire tape.

- Before dictating, press RESET to reset the counters to zero.

To record the LTR signal

Press LTR on the hand control unit.
Each time the button is pressed, the number on the LTR (document) counter increases by one.



To record the SEC signal

Press SEC on the hand control unit.
Each time the button is pressed, the number on the SEC (special instruction) counter increases by one.



Notes

- The LTR or the SEC signal should be recorded with the intervals of more than 6 seconds.
- Playback sound is muted when either the LTR or SEC button is pressed.
- If either the LTR or SEC button is pressed while turning on the SPEED CONTROL selector, the tape will run at normal tape speed.
- While playing back, if either the LTR or SEC button is pressed to record the index signal on the previously recorded LTR or SEC signal by mistake, a beep tone is heard and the index signal cannot be recorded.

When the LTR or SEC signal is recorded, the number on the counter blinks and then lights up. Up to nine signals each can be recorded on each side of a cassette. If more than nine signals are recorded, "E" appears in the counter display.

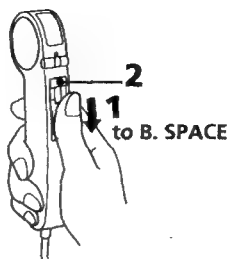
Continued on next page.

Dictation (continued)

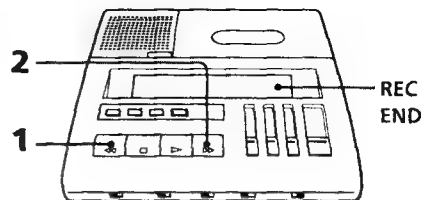
Record-end function

You can easily find the end of the last recorded segment on the tape. This function enables you to continue recording from the point where you left off.

Hand control unit



BM-890



Note

Once the cassette is ejected or the POWER switch is set to STANDBY, the record-end memory is cleared and the record-end function does not operate.

1 Rewind the tape a little.

2 Press ►► FF (FWD SPACE).

The tape will rapidly advance and stop at the end of the last recorded segment. At the end of the last recording, a long beep tone is heard and REC END blinks for approx. 3 seconds on the display window and then, disappears.

If the unit is set in record mode by mistake, immediately stop the recording. The record-end function does not operate if the recorded material is shorter than a second.

Recording time

Select the desired tape speed for recording with the use of the TAPE SPEED selector.

2.4 cm: For optimum sound (recommended for normal use)

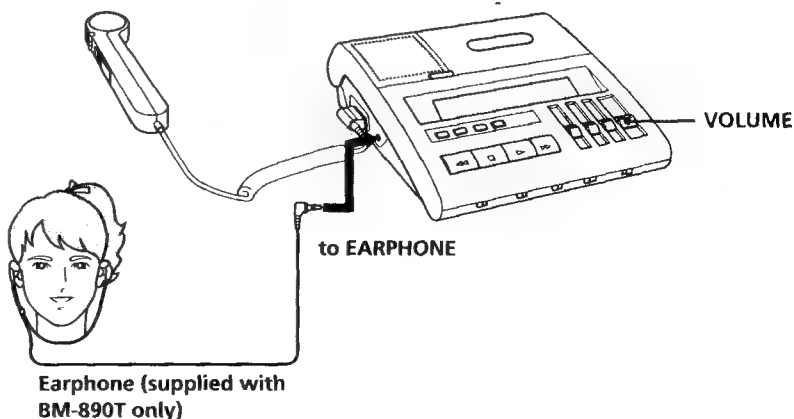
A 60-minute recording can be made using both sides of the MC-60BM Microcassette.

1.2 cm: For longer recording time

A 120-minute recording can be made using both sides of the MC-60BM Microcassette.

Monitoring while dictating

The recording can be monitored through earphones. Connect a Sony DE-45, DE-36 or MDR-U10M earphones (not supplied) to the EARPHONE jack located on the left side of the unit. Adjust VOLUME if required.



Tips for More Efficient Dictation

Before you start dictation

- Organize your thoughts.
- Make notes or an outline of what you want to dictate.
- Check that the cassette is erased. (See page 20.)

When you dictate

- Identify yourself. (Name, department, phone number)
- Indicate the type of dictation. (Memo, letter, etc.)
- Give transcribing instructions. (Type of stationery, number of copies and who they are for, envelopes, etc.)
- Specify distribution. (Names, addresses, etc.)

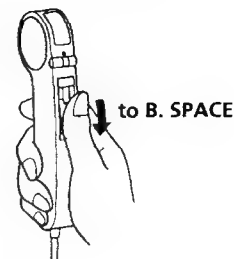
During dictation

- Relax and speak clearly, at normal speed.
- Short sentences are best.
- Include punctuation.
- Spell difficult or unusual words.
- Correct your mistakes. (Review and redictate, or use SEC signal to alert the transcriptionist of changes or corrections.)
- At the end of each document, record an LTR signal.

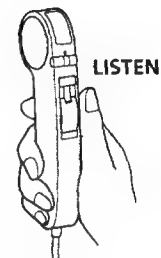
Quick reviewing (playback)/correcting the dictated material

You can easily listen to the dictated material and correct it if required.

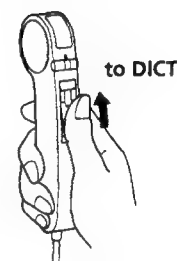
- 1 Keep the function selector of the hand control unit pressed down toward B. SPACE to rewind the tape.**



- 2 Release the selector. Playback of the dictation begins.**

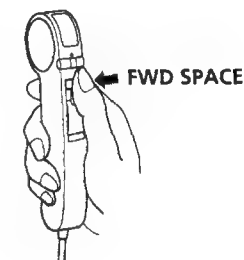


- 3 When the reviewing is completed, set the function selector to DICT to proceed with the dictation.**



For fast winding of the tape

Keep the FWD SPACE button of the hand control unit pressed until the desired portion is reached.



When you have finished dictating

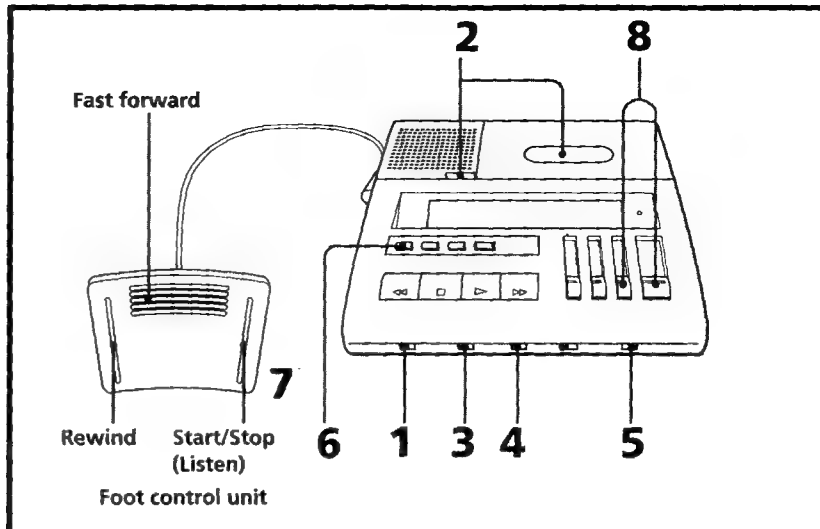
Hand the cassette to your secretary without rewinding the tape.

Transcription

You need the BM-890T or, if your model is BM-890D the foot control unit.

To use the unit as a transcribing machine, connect the foot control unit.

For connection, see page 6.



Tips on Transcription

- Before typing, check the recorded time of the dictation and the number of LTR and SEC signals recorded on the cassette using the SCAN function.
- Erase the tape when transcription is finished.

Notes

- To stop scanning, press STOP.
- When the AUTO STOP switch is set to ON, the tape automatically stops at each electronic index signal previously recorded on the tape while scanning. This is convenient to locate the beginning of each document or special instruction.
- To restart scanning after it is stopped at the electronic index signal, press the SCAN or REW button.

1 Set POWER to ON.

2 Insert a cassette. (See page 7.)

3 Set SPEAKER to BUILT-IN.

4 Set AUTO STOP to OFF. (See page 16.)

5 Set TAPE SPEED to the same tape speed as that used for recording (dictation).

6 To check the recorded material by using the SCAN function, press SCAN for a second.

SCAN and REMAINING appear on the display and the tape starts to be rewound. When the tape is completely rewound, a beep is heard and the unit automatically shuts off. As to the digital counter, see page 15.



7 Keep the right side of the foot control unit pedal depressed to listen to the tape.

8 Adjust VOLUME and TONE.

To stop the tape

Release the pedal.

To rewind the tape

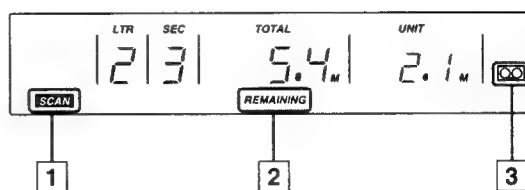
Keep the left side of the foot control unit pedal depressed.

To rapidly advance the tape

Keep the center top of the foot control unit pedal depressed.

Digital Counter While Scanning

To use the SCAN function, press the SCAN button for a second. When the tape reaches the beginning of the dictated material, a beep tone is heard and the unit automatically shuts off. When the tape is completely rewound, the total dictated time and the recorded time of the first document are displayed. The numbers of documents and special instructions recorded on the tape are also displayed on the display window.



Notes on the time counter

While REMAINING is displayed (in scanning mode or in rewind mode after scanning) and the unit is stopped automatically when the LTR signal is detected, the number on the UNIT counter will be reset to 0.0M after blinking for about 3 seconds to read the amount of the document.

1 SCAN indicator

Disappears when the unit shuts off.

2 REMAINING indicator

While REMAINING is displayed, the numbers on the display window indicate the amount of tape left. This is convenient to know the remaining amount of dictation when transcribing.

While REMAINING is displayed, dictating, telephone recording and recording of LTR and SEC signals cannot be performed.

Press RESET or the eject button. REMAINING will disappear.

3 (cassette) indicator

When the tape reaches the tape top, this mark blinks while a long beep tone is heard and then lights up.

The above example of the counter indicates that the cassette has 2 documents and 3 special instructions. Total recorded time of the dictation is approx. 5.4 minutes and the recorded time of the first document is approx. 2.1 minutes.

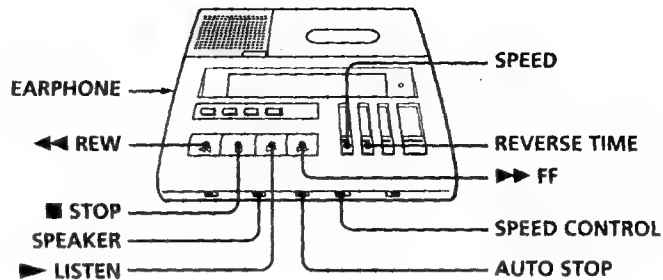
Scan-top function

When the tape is advanced rapidly (in fast forward mode after scanning) while REMAINING is displayed, the tape will stop automatically at the portion from which the scanning was started. In this case, a beep tone is heard and the - (minus) mark on the TOTAL counter blinks for about 3 seconds and then stops blinking.

Continued on next page.

Transcription (continued)

Convenient Functions



Note

The tape does not stop at the LTR or the SEC signal even if the AUTO STOP switch is set to ON while the FF or REW button is continuously depressed.

AUTO STOP function

With the AUTO STOP function, recorded documents and instructions can be located without the user's having to listen to the entire tape.

This function activates only in rewind, fast forward or scanning mode.

When the AUTO STOP switch is set to ON, the tape automatically stops at each electronic index signal previously recorded on the tape. (See "To record LTR and SEC signals" on page 10.)

- **When the LTR signal is detected**, the LTR document counter number increases or decreases and blinks for approximately 3 seconds, and a beep tone is heard. The tape stops automatically.
- **When the SEC signal is detected**, the special instruction counter number increases or decreases and blinks for approximately 3 seconds, and a beep tone is heard. The tape stops automatically.

When the AUTO STOP switch is set to OFF, the numbers on the LTR (document) and SEC (special instruction) counters increase or decrease and blink when an LTR or SEC signal is detected, but the tape does not stop.

DPC (Digital Pitch Control) and speed control function

You can make the sound more comprehensible when changing the tape speed. Set the SPEED CONTROL selector to DPC so that the pitch does not change, even when the tape is played back at high or low speed by the SPEED control.

Set the SPEED CONTROL selector to ON to adjust the speed only by the SPEED control.

When the SPEED CONTROL selector is set to OFF, the tape moves at the normal speed regardless of the position of the SPEED control.

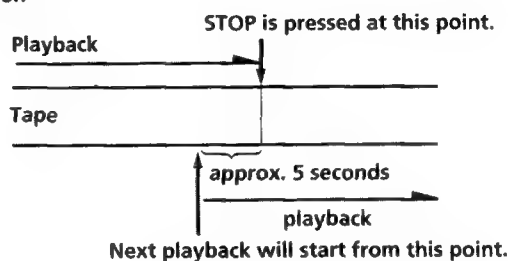
Auto backspace function

This control operates only when the foot control unit is connected. With the use of the REVERSE TIME control, the tape is rewound a little each time it is stopped. Then, the last few recorded words can be reviewed when you resume listening. Adjust the REVERSE TIME control to determine the length of tape to be rewound.

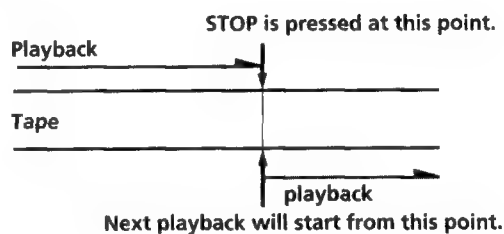
At "9" position, the tape is rewound so that the dictated material can be reviewed for about 5 seconds. At "0" position, the tape stops without being rewound at all.

Set the REVERSE TIME control to the desired position and keep the right side of the pedal depressed to listen to the tape.

REVERSE TIME : at "9" position



REVERSE TIME : at "0" position



Continued on next page.

Transcription (continued)

Notes

- When the button is pressed while detecting the index signal during playback, the switching time of the operation modes may be delayed.
- When a cassette which was not recorded using a Sony Professional Dictating Machine (BM-531, 560, 570, 820, 880, 890, etc.) is played back or wound rapidly (in fast forward or rewind mode), the switching time of the operation modes may be delayed. In this case, set the unit to the Electronic "Index OFF" mode. (See page 19.)

Notes

- E-INDEX signal of the Sony conventional models BM-531 and so on corresponds to the LTR signal of the model BM-890.
- LTR/SEC signals and E-INDEX signal do not correspond to the cue signals used for consumer type tape recorder.

Tape transport operation

To	BM-890	Hand control unit	Foot control unit
Rewind	Press ◀◀ REW.	Keep the function selector pressed down toward B.SPACE.	Keep the left side of the pedal depressed.
Stop	Press ■ STOP.	Set the function selector to STOP.	Release the pedal.
Listen	Press ▶▶ LISTEN.	Set the function selector to LISTEN.	Keep the right side of the pedal depressed.
Fast forward	Press ▶▶ FF.	Keep the FWD SPACE button pressed.	Keep the top center of the pedal depressed.

Private listening

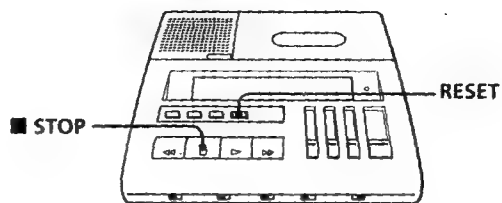
Connect a Sony DE-45, DE-36 or MDR-U10M earphones (not supplied) to the EARPHONE jack.
The sound will be heard through the earphones and speaker sound will be disconnected.

Selecting the speaker

You can listen to the dictated material through the built-in speaker or the speaker on the hand control unit by switching the SPEAKER selector to BUILT-IN or HAND.

Transcribing a Cassette Recorded with a Dictator Other Than Sony's

If you transcribe a cassette which was not recorded using a Sony Professional Dictating Machine, set the unit to the Electronic "Index OFF" mode.

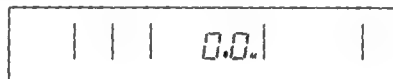


Notes

- In the Electronic "Index OFF" mode
 - the LTR or the SEC signal is not recorded even if you press the LTR or SEC button.
 - the AUTO STOP function does not work even if the AUTO STOP switch is set to "ON".
- If you play back in the Electronic "Index ON" mode and the cassette was not recorded using a Sony Professional Dictating Machine (BM-531, 560, 570, 820, 880, 890 etc.), neither the operation buttons, the counters nor the auto backspace function will work correctly.

In the tape stop mode, keep both RESET and STOP pressed for more than 2 seconds.

Only the TOTAL counter is displayed and the number is reset to "0". The unit is in the Electronic "Index OFF" mode.



To return the unit to the Electronic "Index ON" mode

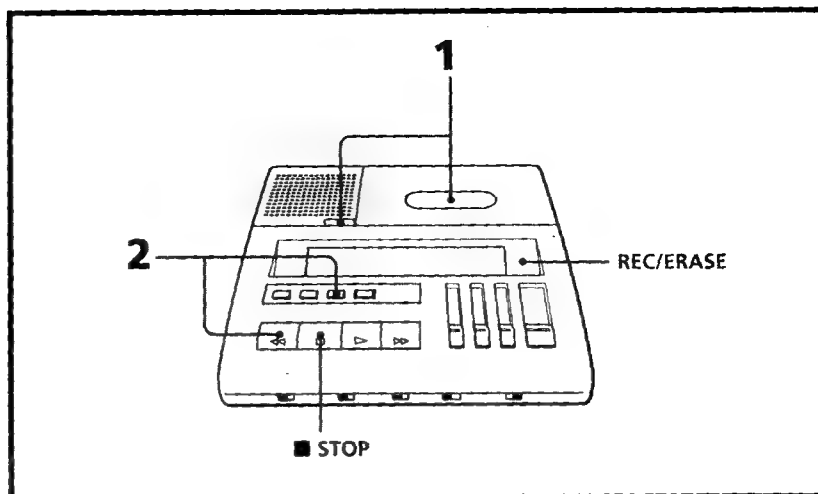
Change the mode by following the procedure above.

To switch the counter to time or tape indication

See page 9.

Erasing

The recording can be erased rapidly.



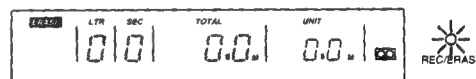
Tip

For easier and quicker erasure of the entire cassette, use Sony BE-9H cassette eraser (not supplied).

- 1 Insert the cassette with the side to be erased up.** (See page 7.)

Be sure not to rewind the tape after transcribing. The end portion of the dictated material to be erased should be positioned at the recording head.

- 2 Keep ERASE pressed and then press ◀◀ REW.**
The REC/ERASE lamp lights up and ERASE appears on the display window.
The portion of the tape being rewound is erased.



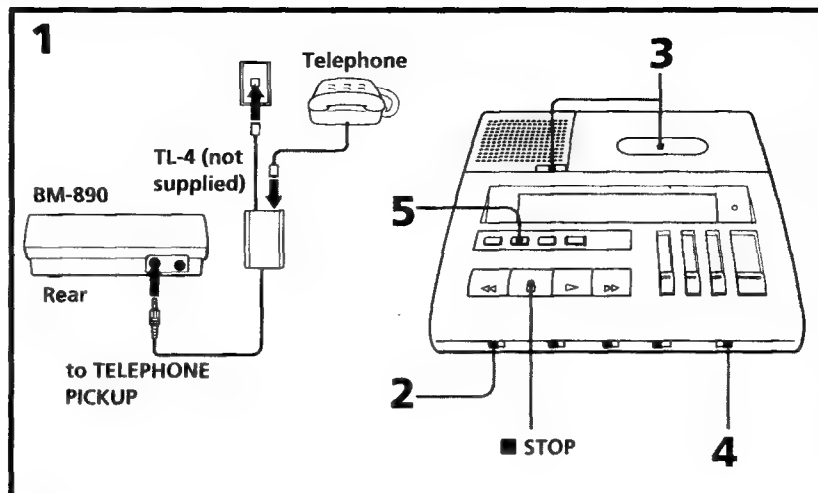
To stop the tape

Press ■ STOP.

Telephone Recording

To record telephone conversation, connect the optional TL-4 telephone recording adaptor* to the TELEPHONE PICKUP jack. For further details, refer to the instruction manual of the telephone recording adaptor.

* The TL-4 cannot be used on some telephones.



At the beginning of telephone recording

LTR signal is automatically recorded.

While the LTR signal is being recorded (for about 3 seconds), the unit cannot be stopped even though the STOP button is pressed.

During telephone recording

Only the LTR, SEC and STOP buttons are operative.

1 Connect the TL-4 (not supplied) to the unit.

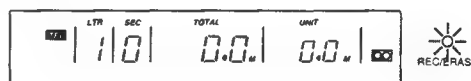
2 Set POWER to ON.

3 Insert a cassette. (See page 7.)

4 Set TAPE SPEED to the desired tape speed.

5 Keep TEL REC pressed for more than a second.

Telephone recording begins. REC/ERASE lamp blinks and TEL appears on the display window.



To stop the tape

Press ■ STOP.

Example of Dictation and Transcription

Example of Dictation

Set the function selector of the hand control unit to DICT.

Press SEC.

"This is a letter. Type it up and send it by express."
 "Today's date is July 4, 1994.
 This letter is for Mr. Alan R. Jefferson
 Pyrene House, Sunbury on Thames,
 Middlesex, TW16 7AT, U.K.

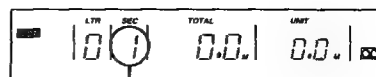
Dear Sir,
 We received your order for"

Press SEC.

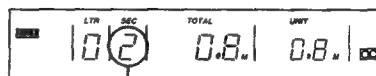
"under line
 POI-L-5049-D3581", "quantity 270,000 today.
 Shipment can be made within two weeks by Air.
 Please accept our thanks for your order.
 Faithfully yours,
 John S. Smith
 Sales Manager
 U.K.G. Ltd."

Press LTR.

Set the function selector of the hand control unit to STOP.

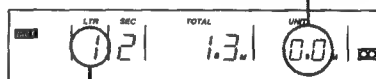


Blinks for approx. 3 seconds and stops blinking.



Blinks for approx. 3 seconds and stops blinking.

This number is reset to 0.0 when the LTR button is pressed and increases until the LTR button is pressed again.



Blinks for approx. 3 seconds and stops blinking.

Example of Transcription

Insert the cassette.

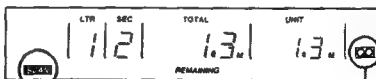
Set AUTO STOP to OFF.

Press SCAN.

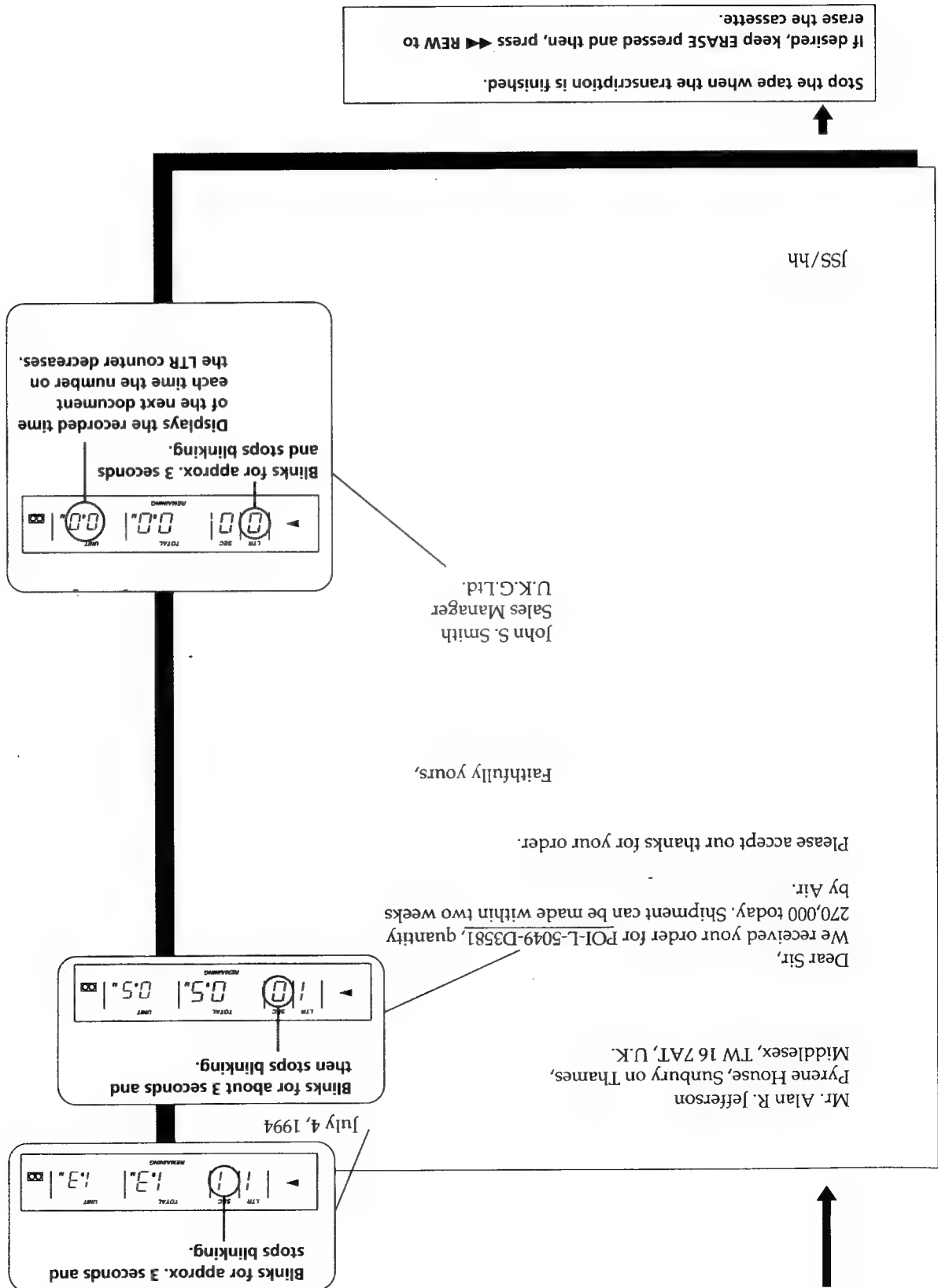
The unit automatically shuts off when the tape reaches the tape top.
 The counter indicates the total amount of dictation.

Keep the right side of the foot control unit pedal depressed.

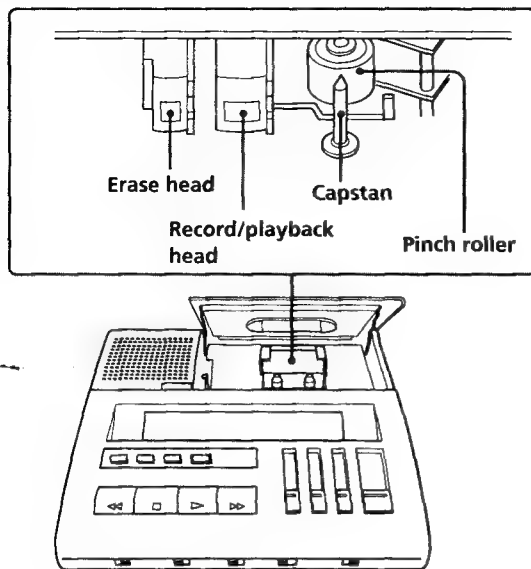
Tape playback starts.



When the tape reaches the beginning, SCAN disappears and the blinks for about 3 seconds and then stops blinking.



Maintenance



Cleaning the heads

To produce optimum sound, clean the tape heads after every 10 hours of use.

First, disconnect the AC power adaptor. Moisten a cotton swab or a soft cloth with alcohol, and wipe the parts shown on the left.

Cleaning the cabinet

Clean the cabinet with a soft cloth slightly moistened with a mild detergent solution. Never use strong solvents, such as thinner or benzine, since they may damage the finish.

Troubleshooting Guide

Should any problem occur, conduct the following simple tests to determine whether or not servicing is required. If the problem persists after you have conducted these tests, consult the nearest Sony Dictation Systems dealer.

The unit does not operate.

- The AC power adaptor is not plugged into a wall outlet.
- The POWER switch is set to STANDBY.

No sound from the built-in speaker

- The SPEAKER selector is set to HAND.
- The VOLUME control is set in the MIN position.
- An earphone is plugged in.

The tape speed is too fast or too slow.

- The TAPE SPEED selector is set incorrectly.
- The SPEED control is set incorrectly.
- The SPEED CONTROL selector is set to ON or DPC.

The tape stops in the rewind or fast forward mode and the alarm sounds.

- The AUTO STOP switch is set to ON and a tape with electronic index signal recorded is used.
- The entire tape has been wound.
- The end of recording is reached while the tape is rapidly advanced and REC END is displayed. (See page 12.)
- When REMAINING is displayed, the tape stops at the scan-top position while the tape is rapidly advanced. (See page 15.)

Recording functions (Dict, Erase, Telephone recording, LTR, SEC) do not activate.

- The tape is completely rewound.
- The cassette tabs have been removed.
- REMAINING is displayed on the counter. Press RESET. (Cassette can be erased while REMAINING is displayed.)

Sound drop-outs, loss of high frequency sounds, or excessive noise

- The heads are dirty. See "Maintenance".

Erasing is unsatisfactory.

- The erase head is dirty. See "Maintenance".

The LTR or SEC signal can not be recorded.

- The unit is in the Electronic "Index OFF" mode. (See page 19).

The LTR, SEC or UNIT counter is not indicated.

- The unit is in the Electronic "Index OFF" mode. (See page 19).

The LTR, SEC or UNIT counter does not work correctly.

The reverse time of the auto backspace function is not correct.





- A cassette which was not recorded using a Sony Professional Dictating Machine (BM-531, 560, 570, 820, 880, 890 etc.) is played back in the Electronic "Index ON" mode. (See page 19.)
- The reverse time of the auto backspace function may become longer when the LTR or SEC signal is detected on the tape.

The switching time of the operation modes (STOP, LISTEN, FF or REW) is delayed.

- A cassette which was not recorded using a Sony Professional Dictating Machine (BM-531, 560, 570, 820, 880, 890 etc.) is played back in the Electronic "Index ON" mode. (See page 19).
- When a button is pressed while detecting electronic index signal during playback.

Alarm System

An alarm sounds and an indication appears on the display window in the following situations.

Alarm system	Situation	To release alarm system
When you press a button. → A beep is heard and  blinks.	<ul style="list-style-type: none"> No cassette is inserted. The cassette's safety tabs have been removed. 	First, release the button, then <ul style="list-style-type: none"> Insert a cassette. Insert a new cassette or cover the safety slot.
The unit shuts off. → A beep is heard and  blinks.	<ul style="list-style-type: none"> End of tape The tape is torn. 	<ul style="list-style-type: none"> Rewind the tape. Insert a new cassette.
When you press a button. → A beep is heard and REMAINING blinks.	<ul style="list-style-type: none"> When you attempt to record while REMAINING is displayed. 	<ul style="list-style-type: none"> Clear the REMAINING mark by pressing the RESET or eject button.
While recording. → Beeps are heard and  blinks until the unit shuts off at the end of tape.	<ul style="list-style-type: none"> Approx. 3 minutes before the unit shuts off at the end of tape while recording. 	<ul style="list-style-type: none"> Press  LISTEN to stop alarm sound. Stop recording and insert a new cassette.
The unit shuts off during FF mode. → A beep sounds and REC END blinks.	<ul style="list-style-type: none"> End of recording 	<ul style="list-style-type: none"> The REC END disappears and alarm stops automatically when about 3 seconds have passed.
→ "E" appears.	<ul style="list-style-type: none"> The number of LTR or SEC signal exceeds 9. 	<ul style="list-style-type: none"> Do not press LTR or SEC button more than 9 times.
The unit shuts off during FF mode. → The - (minus) mark on the TOTAL counter blinks. A beep is heard.	<ul style="list-style-type: none"> While REMAINING is displayed, the unit is rapidly advanced and automatically stopped at the portion from which the scanning was started. 	<ul style="list-style-type: none"> The minus mark stops blinking and lights up automatically when about 3 seconds have passed.
The unit shuts off. → A beep is heard and number of LTR or SEC blinks.	<ul style="list-style-type: none"> Either LTR or SEC are detected while the tape is wound rapidly (in fast forward, rewind or scanning mode) and the AUTO STOP switch is set to ON. 	<ul style="list-style-type: none"> The number of LTR or SEC stops blinking and lights up automatically when about 3 seconds have passed.
Either the LTR or SEC buttons are pressed while playing back the tape. → A beep is heard.	<ul style="list-style-type: none"> Either the LTR or SEC signals are detected on the tape. 	<ul style="list-style-type: none"> Release the button. Play back the tape continuously for more than 6 seconds and then, press the button again.
When you press a button. → A beep is heard.	<ul style="list-style-type: none"> When you press the TEL REC button except in the stop or dictating mode. When you put the hand control unit in the dictating mode during the FF, REW or ERASE mode. 	<ul style="list-style-type: none"> To stop alarm sound, release the TEL REC button, or put the hand control unit in the stop mode. To start recording, put the BM-890 in the stop mode first and then start recording.

Specifications

Tape

MICROCASSETTE™ (normal position type)

Recording system

4-track 2-channel monaural
(L channel for electronic index signals, R channel for sound signals)

Tape speed

2.4 cm/s ($1\frac{5}{16}$ in./s), 1.2 cm/s ($1\frac{1}{32}$ in./s)

Fast winding time

Approx. 1 min. 50 sec. (2.4 cm/s) with Sony microcassette MC-60BM

Frequency response

200–4,000 Hz (at 1.2 cm/s)

200–6,000 Hz (at 2.4 cm/s)

Speaker

Approx. 5.7 cm ($2\frac{1}{4}$ inches) dia.

Power output

350 mW (at 10% distortion)

Input

TELEPHONE PICKUP (minijack)

Sensitivity 0.2 mV

Input impedance 10 kilohms

Output

EARPHONE (minijack)

for 8–300-ohm earphones

CONTROL UNIT connector

for hand control unit or foot control unit

Power requirements

9 V DC

DC IN 9 V jack accepts the supplied AC power adaptor for use on 120 V AC, 60 Hz

Power consumption

14 W (with the supplied AC power adaptor)

Dimensions

Approx. 200 x 70 x 245 mm (w/h/d) ($7\frac{7}{8}$ x $2\frac{7}{8}$ x $9\frac{3}{4}$ inches)

including projecting parts and controls

Mass

Approx. 1.4 kg (3 lb 2 oz)

Accessories supplied

AC power adaptor (1)

Hand control unit (1, BM-890D only)

Cradle for the hand control unit (1, BM-890D only)

Foot control unit (1, BM-890T only)

Earphone (1, BM-890T only)

Design and specifications are subject to change without notice.

Optional accessories

Hand control unit HU-80

Foot control unit FS-85

Earphone DE-45, DE-36

Headphones MDR-U10M

Telephone recording adaptor TL-4

Telephone pickup TP-15

Message coupler TL-2

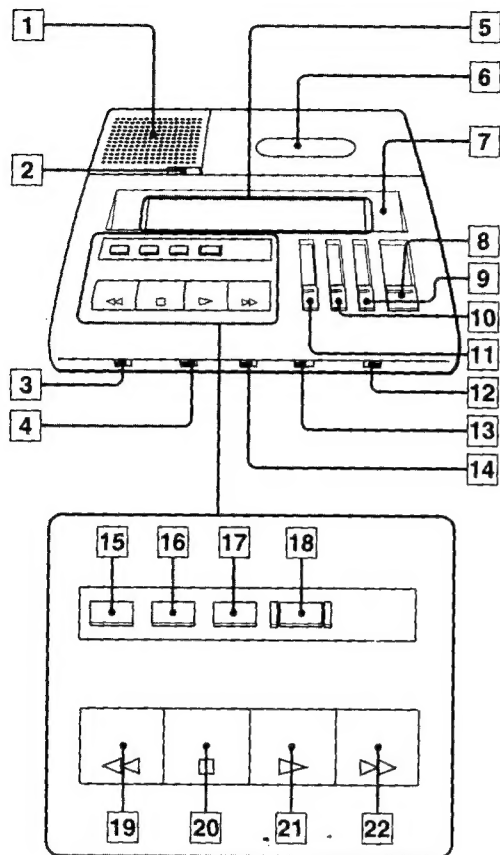
Cassette eraser BE-9H

Cleaning kit KK-31

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories.

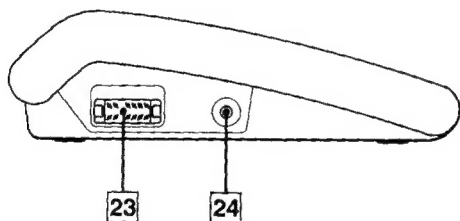
Location and Function of Controls

For details, refer to the pages indicated in ().



- 1** Built-in speaker
- 2** Eject button
Press to eject the cassette. The digital counter is reset to 00 0.0M0.0M every time the cassette is ejected.
- 3** POWER switch
- 4** SPEAKER selector (18)
- 5** Display window (29)
- 6** Cassette holder
- 7** REC (record)/ERASE lamp (8, 20)
- 8** VOLUME control
- 9** TONE control
- 10** REVERSE TIME control (17)
- 11** SPEED control (16)
- 12** TAPE SPEED selector (12)
- 13** SPEED CONTROL selector (16)
OFF/ON/DPC
- 14** AUTO STOP selector (16)
- 15** SCAN button (15)
- 16** TEL REC (telephone recording) button (21)
- 17** ● ERASE button (20)
- 18** RESET button (9, 10)
- 19** ◀◀ REW (rewind)
- 20** ■ STOP
- 21** ▶▶ LISTEN
- 22** ▶▶ FF (fast forward)

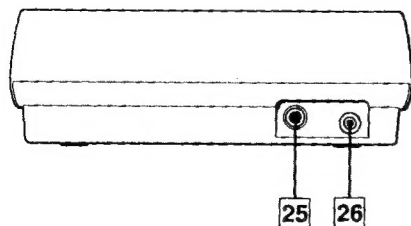
Left side



Left side

- 23** CONTROL UNIT connector (6)
- 24** EARPHONE jack (13, 18)

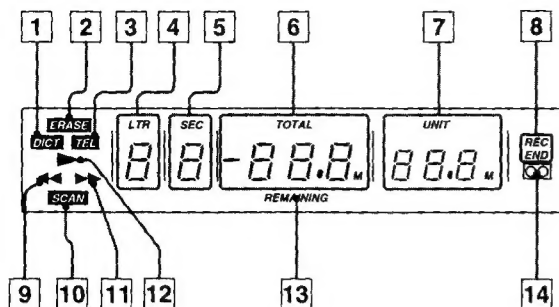
Rear



Rear

- 25** TELEPHONE PICKUP jack (21)
- 26** DC IN 9 V (6)

Display Window



- 1 DICT (dictation) indicator
Displayed during recording
- 2 ERASE indicator
Displayed while the cassette is being erased.
- 3 TEL (telephone) recording indicator
Displayed during recording of telephone calls.
- 4 LTR (letter) counter
End of letter counter
Displays the number of end-of-letter signals (i.e. the number of documents) recorded.
- 5 SEC (secretary) counter
Special instructions for secretary counter
Displays the number of special-instructions-for-secretary signals recorded.
- 6 TOTAL (time/tape) counter
Displays time or tape length of the recorded documents. The time counter and the tape counter is switched by pressing the RESET button for more than two seconds.
Time counter indicates the approximate time of the recorded documents.
Tape counter indicates the tape length of the recorded documents.
- 7 UNIT (time) counter
Displays the time of each recorded document, i.e. displays the approximate recorded time of a dictation, from the portion where the LTR signal is recorded to the portion where the next LTR signal is recorded.
- 8 REC END indicator
Blinks for approx. three seconds when the recording end portion is detected and disappears.

- 9 ◀◀ (rewind) indicator
Displayed while the cassette is being rewound.
- 10 SCAN indicator
Appears when the SCAN button is pressed. While SCAN is displayed, REMAINING is also displayed. In this case, the display window indicates the remaining time of the recorded documents, remaining numbers of recorded LTR and SEC signals and the remaining time of the actual document.
This disappears with a long beep tone when the tape reaches the tape top.
- 11 ▶▶ (fast forward) indicator
Displayed while the tape is advanced rapidly.
- 12 ▶ (listen) indicator
Displayed during playback.
- 13 REMAINING indicator
Appears when the SCAN button is pressed.
While REMAINING is displayed, recordings of dictation, telephone calls, LTR signals and SEC signals cannot be made. If the function selector is set to DICT or TEL REC, LTR or SEC button is pressed, REMAINING blinks and a beep tone is heard.
The numbers on the digital counter (LTR, SEC, TOTAL and UNIT) indicate the remaining number of the LTR signals and the SEC signals, remaining amount of dictations (TOTAL) and remaining time of the actual document while the unit is in playback, fast forward or rewind mode.
To clear the REMAINING mark, press RESET or the eject button.
- 14 ◻◻ (cassette) indicator
Displayed while cassette is inserted.
The indicator blinks in the following cases:
 - The button is pressed when no cassette is inserted or when the cassette's safety tabs have been removed.
 - About 3 minutes before reaching the end of the tape. (During dictating or recording of telephone call)
 - End of tape or the tape is torn.

Notes

- It may be difficult to read the liquid crystal counter display due to the watching angle.
- If you play back a cassette which was not recorded using a Sony Professional Dictating Machine, set the unit to the Electronic "Index OFF" mode (see page 19).